

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 April 2005 (14.04.2005)

PCT

(10) International Publication Number
WO 2005/032721 A1

(51) International Patent Classification⁷: B02C 7/12, (74) Agent: SUNDQVIST, Hans; Metso Paper Sundsvall AB, D21D 1/30, D21B 1/14 S-851 94 Sundsvall (SE).

(21) International Application Number: PCT/SE2004/001215

(22) International Filing Date: 20 August 2004 (20.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 0302646-5 6 October 2003 (06.10.2003) SE

(71) Applicant (for all designated States except US): METSO PAPER, INC. [FI/FT]; P.O. Box 1220, FIN-00101 Helsinki (FI).

(72) Inventor; and

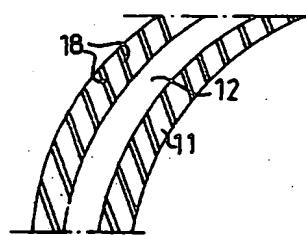
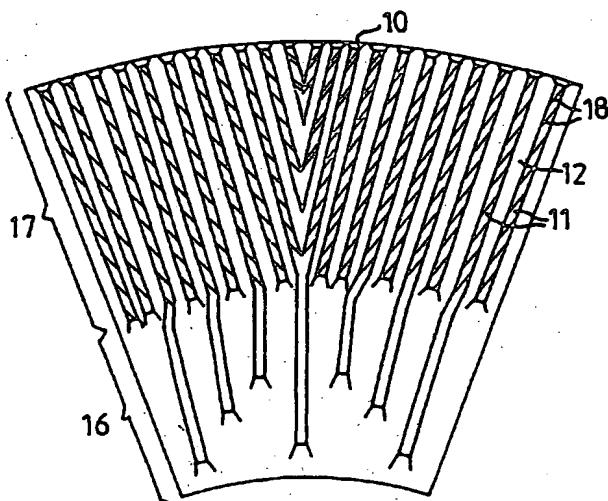
(75) Inventor/Applicant (for US only): VIRVING, Nils [SE/SE]; Backtimjegränd 27, S-165 73 Hässelby (SE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

[Continued on next page]

(54) Title: REFINING ELEMENT



(57) Abstract: A refining element intended for refiners for the working of fibrous material, where the refining element (10) is formed with a pattern of bars (11) with upper surfaces (13) and side surfaces (14) and intermediate grooves (12). The bars (11) extend arc-shaped outward over the refining element and the upper working surfaces (13) of the bars (11) are wider and provided with a plurality of smaller grooves (18), which form angles within 10-90° with the longitudinal direction of the bars, so that the smaller grooves (18) on the bars (11) extend substantially radially.

WO 2005/032721 A1



SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations*
- *of inventorship (Rule 4.17(iv)) for US only*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.